



Cause for concern? Dr Alistair Hay displays two widely-sold garden products

The use of chemicals as clandestine weapons has been outlawed in Britain since the 1950s. But on the shelves of hardware stores and garden centres you may still find weedkillers that contain 245T and its contaminant dioxin, responsible for the devastation wrought by Agent Orange in Vietnam. And the combination of 245T and 24D used to scorch the Ho Chi Minh Trail can be found in some bramble and brushwood killers, while certain insecticides use organo-phosphorous compounds similar to those employed in the German nerve gas experiments of the 1930s.

Not so long ago a man died of a muscle-wasting, motor neurone disease which his doctors traced back to the day he sprayed two cans of a well-known brand of ant killer in a poorly ventilated larder. The label warned against breathing the spray, and the man had inhaled an exceedingly large quantity of the pesticide, but according to one of the team of neurologists who treated him at Birmingham's Queen Elizabeth Hospital, Dr Adrian Williams, further medical investigation could be needed into the potential long-term effects of exposure to smaller doses of such chemicals. "It's our job as medics — I'm not saying it's up to the insecticide manufacturers — to try to discover whether there's any exposure in common to the patients who come to us with this type of disease," he says. So how confidently can we handle garden chemicals? Dr Graham Pearson, director of the Ministry of Defence's Chemical Defence Establishment at Porton Down, says: "I would always be very careful to read the ingredients. I'd put down any containing 245T or 24D, which should be clearly listed on the label, and go for the pyrethrin-based insecticides."

Pyrethroids, a growth area in pesticides, are a synthetic analogue intended to supercede the organo-phosphorous chemicals. They are "less environmentally persistent", as Mike Flux, environmental adviser to ICI, puts it, and

Up the garden path?

Before Bank holiday gardening fever sets in, take a cautious look in your shed

have been developed to target the enemy more specifically to destroy pests without any disastrous effect on the rest of the food chain.

Nippon, the ant killer implicated in reports of the death of the man in Birmingham from motor neurone disease symptoms, contained permethrin, one of the pyrethroids, and chlordane, which a growing lobby in the United States is fighting to ban because of a possible cancer link. The formula has since been altered — although not because of the incident, Nippon's manufacturer Synchemicals stresses — so that it no longer contains chlordane but permethrin and tetramethrin.

Charles Platt, Synchemicals' technical manager, emphasizes that the man's death occurred "a significant time after someone had *abused* — not used — our product" and was an isolated incident. And Derek Dewey Leader, chief press officer of ICI, stresses that "in the case of most ant or wasp killers you'd have to absorb about a litre for a lethal dose".

Chemical industry spokesmen are quick to point out their good track record, and the responsibility and reliability of their products; environmental purists are equally adamant that nature has her own sensible ways of dealing with pests, and that chemical

meddling is not only unnecessary but dangerous.

Dr Edward Spiers of Leeds University, author of a major book on chemical warfare, is one of those who holds the middle ground, a wary compromise. He cheerfully admits that "my own weed killer contains 24D which was used in Agent Orange, but I handle it carefully, always with rubber gloves, and dilute it well".

Dr Alistair Hay of the Department of Chemical Pathology at Leeds University, an internationally acknowledged expert in the field, notes that "the poison paraquat — lethal when imbibed, but not so dangerous in cases of skin contact — is used in Weedol and other brands here although it is banned or restricted in some countries".

But Dr Peter Slade, head of product stewardship for ICI, pooh-poohs concern about paraquat, if it is used properly, and counters: "We are working to restore its registration in Germany, so the only country in which paraquat is fully banned is Sweden." Despite this paraquat has disappeared from many products.

Hay is primarily interested in the health and safety of workers in the chemical and agricultural industry, and seeing that "vital information is passed down which will allow them to make an informed choice and take the necessary precautions".

Slade says that ICI is experimenting with symbols and illustrations that will be clear even to the illiterate. He stresses that under the terms of the new Food and Environment Protection Act, active ingredients must by law be displayed in advertisements.

Packaging is also important, Hay says; it should be designed so that if a solution requires mixing or diluting none of it need touch the hands. He is pleased to report that "market leaders such as Monsanto are improving the design of the packaging so that the dispensing is done into a sealed unit rather than a cap".

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